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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/517,595 | 08/23/2005 | Jan De Kroon | 4662-304 | 9094 |
| 23117 | 7590 | 06/16/2009 | EXAMINER | |
| NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203 | | | | FREEMAN, JOHN D |
| ART UNIT | | PAPER NUMBER | | |
| 1794 | | | | |
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| 06/16/2009 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/517,595 | DE KROON ET AL. | |
| | Examiner | Art Unit | |
| | John Freeman | 1794 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 06 May 2009.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-6 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-6 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1.) Certified copies of the priority documents have been received.
 2.) Certified copies of the priority documents have been received in Application No. _____.
 3.) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6 May 2009 has been entered.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Van Marcke (US 5,975,359) in view Nijenhuis et al. (WO 00/35992) and Rosato et al. (The Plastic Engineering Manufacturing & Data Handbook Vol. 1).

4. Van Marcke discloses a laminated sheet (Fig. 3) of polyamide 52 and polyethylene 54 (col 4 ln 14-17). The sheet can be formed by coextrusion (col 4 ln 5-8). Van Marcke suggests that one seeking lower melting temperatures should use non-linear polyethylene (col 4 ln 42-45).

5. Van Marcke is silent with regard to branched polyamides as presently claimed.

6. Nijenhuis discloses randomly branched polyamides conforming to the formulae outlined by Applicant (p2 ln 29-p3 ln 32). The polyamides are suitable for films and molded articles (p7 ln 13). The films are gel-free and exhibit little, if any, neck-in during production (p 7 ln 18-29).

7. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the branched polyamides as taught by Nijenhuis as the polyamide required by Van Marcke because said polyamides would be gel-free and exhibit little, if any, neck-in during production.

8. Both references are silent with regard to the production speed of coextruded sheet.

9. Rosato et al. (hereafter Rosato) disclose neck-in associated with nylon, i.e. polyamide, increases with increasing line extrusion speed (p615). As such, upon reading the disclosure of Nijenhuis, which

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discloses the branched polyamides exhibit little, if any, neck-in during production, an artisan of ordinary skill would immediately recognize the branched polyamides of Nijenhuis would permit higher production speeds than non-branched polyamides.

10. “[A]n implicit motivation to combine exists not only when a suggestion may be gleaned from the prior art as a whole, but when the improvement’ is technology-independent and the combination of references results in a product or process that is more desirable, for example because it is stronger, cheaper, cleaner, **faster**, lighter, smaller, more durable, or more efficient. Because the desire to enhance commercial opportunities by improving a product or process is universal—and even common-sensical—we have held that there exists in these situations a motivation to combine prior art references even absent any hint of suggestion in the references themselves. In such situations, the proper question is whether the ordinary artisan possesses knowledge and skills rendering him capable of combining the prior art references.” [emphasis added] *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1368, 80 USPQ2d at 1651.

11. At the time of the invention, it would have been obvious to one of ordinary skill in the art to increase the production speed of the sheet formed by coextrusion of branched polyamide and polyethylene as taught by Van Marcke in view of Nijenhuis compared to a sheet having non-branched polyamide because one would recognize the capability of the branched materials to be run at increased speed with minimal or less neck-in compared to non-branched polyamide, and thereby improve the throughput of the manufacturing process.

12. Regarding claim 6, which claims a production rate 2-4 times greater, it has long been an axiom of United States patent law that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003) (“The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.”); *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980) (“[D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art.”); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955) (“[W]here the general conditions of a claim are disclosed in the prior art, it is not

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inventive to discover the optimum or workable ranges by routine experimentation."). "Only if the 'results of optimizing a variable' are 'unexpectedly good' can a patent be obtained for the claimed critical range." *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (quoting *In re Antonie*, 559 F.2d 618, 620 (CCPA 1977)). Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to increase the production speeds beyond those of non-branched polyamides, including over the range presently disclosed.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over of Van Marcke (US 5975359) in view Thoma et al. (US 3,893,981).

14. Van Marcke discloses a laminated sheet (Fig. 3) of polyamide 52 and polyethylene 54 (col 4 ln 14-17). The sheet can be formed by coextrusion (col 4 ln 5-8). Van Marcke suggests that one seeking lower melting temperatures should use non-linear polyethylene (col 4 ln 42-45).

15. Van Marcke is silent with regard to branched polyamides as presently claimed.

16. Thoma et al. (hereafter Thoma) disclose polyamides useful as films that can be dyed and remain fast to water and boiling washes (col 2 ln 41-46). The polyamides disclosed overlap with the presently claimed polyamides.

17. Example 4 discloses a polyamide of the AB monomers caprolactam and aminocaproic acid, the carboxylic acids adipic acid and benzoic acid, and the amine diethylenetriamine (col 14 Table 1). The following table summarizes the data contained therein.

| Acid | n | f |
|--------------------|-----|---|
| Adipic acid | 0.6 | 2 |
| Benzoic acid | 0.8 | 1 |
| Amine | n | f |
| diethylenetriamine | 1 | 3 |

Through calculations $1/[(F_A-1) * (F_B-1)] = 5/6 = 0.833$ and $P = 2/3 = 0.667 \leq 1$. Therefore, example 4 falls within the scope of the presently disclosed polyamides. The examiner takes the position the polyamide of Thoma is intrinsically gel-free given the monomers composing the composition satisfy the requirements of the present claims.

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18. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the polyamides as taught by Thoma as the polyamide required by Van Marcke because said polyamides would retain their color upon being dyed despite the presence of water, and therefore provide desirable aesthetic properties.

Claim Rejections - 35 USC § 112

19. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

20. Claims 1-4 and 6 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

21. Claim 1 recites the coextrusion of the branched polyamide layer and the layer of other polymer is practiced at a greater production rate than a “comparable” multilayer film having non-branched polyamide as the polyamide. It is not clear what is encompassed by the term “comparable”. For example, does it require that the coextruded multilayer films share only the general identity of two layers, i.e. each has their respective polyamide, but the same “another polymer”? Can the “another polymers” be different? Can the comparable film include materials in the polyamide layer not required by the present claims or disclosure? Essentially it is not clear what constitutes a “comparable multilayer film” as presently claimed.

22. Further, the rate of production of the comparable multilayer film is completely undefined and would be completely variable to several factors ignored in the claim, including—but not limited to—(i) the exact compositions of the polymers, (ii) the end use of the final product, (iii) the acceptable degree of quality variability, (iv) possible bottlenecks to output due to further processing requirements required in later stages of producing a final product, e.g. further lamination, etc. Note too it is not clear if the comparable multilayer film must be made by the exact same setup as the inventive multilayer film.

Response to Arguments

23. Applicant's arguments with respect to the claim have been considered but are moot in view of the new ground(s) of rejection.

24. Applicant notes the amendments disclosing production speed renders moot previous arguments over the lack of such disclosure in the claims. Note, however, claim 5 does not incorporate said amendments. Also, claim 5 is directed toward a product, and not a process, and product-by-process limitations effectively distinguish claims over the prior art only if the final products are materially different.

25. Applicant continues to assert "Nijenhuis does not relate to a multilayer flat film nor to a process of making a multilayer flat film" (p6). Therefore one would have "no incentive to employ the branched polyamide" in a multilayer film.

26. In response, the examiner again notes multilayer films containing polyamide and polyethylene were so well-known in the art at the time of the invention one of ordinary skill would easily conceive of the use of Nijenhuis's branched polyamides in such films. Films of polyamide were long used in multilayer constructions for, among other properties intrinsic to polyamide, its oxygen barrier properties. Under Applicant's reasoning, an artisan of ordinary skill must necessarily ignore polyamide's long use in multilayer structures simply because Nijenhuis is silent with regard to multilayer structures. Artisans do not read disclosures in a vacuum. One of ordinary skill would recognize the use of Nijenhuis's polyamide films in conjunction with other well-known films.

27. Further, as more fully explained in the rejection, the examiner Van Marcke in view of Nijenhuis and Rosato disclose a process of coextruding at increased speed compared to processes involving non-branched.

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Conclusion

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Miroslav EP '949 discloses various properties of branched polyamides.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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